

Remarks

In the office action, claims 1-4, 7, 8, and 11 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,936,811 to Baker ("Baker"). In addition, claims 5, 9, and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Baker in view of U.S. Patent No. 6,672,596 to Devers ("Devers"). Claim 6 was deemed to be allowable if rewritten in independent form.

In this response, Applicants have amended claims 1, 6, 7, have cancelled claims 4 and 5 and have added new claim 12. Claims 1-11 continue to be pending. Reconsideration and withdrawal of the rejections is requested in view of the amendments and the following remarks.

A. Rejections under 35 U.S.C. § 102:

Claims 1-4, 7, 8, and 11 were rejected under 35 U.S.C. § 102(b) as being anticipated by Baker. Applicants have cancelled claim 4.

Baker describes a flexible boot assembly and a device for retaining the boot on the housing of a trilobal-tripot constant velocity joint. The boot has a sleeve formed to complimentary fit the outer contour of the joint housing, a segmented band, and a clamp encircling the band for causing the sleeve to grip the joint housing.

Applicants have amended independent claim 1 to recite an axle boot for joint sealing that, among other features, includes a plurality of ring sections, wherein at least one of the ring sections is elastically deformable.

Applicant respectfully submits that Baker does not describe the feature of at least one ring section being axially deformable.

Withdrawal of the rejection to claims 1-3, 7, and 8 under 35 U.S.C. §102(b) as anticipated by Baker is respectfully requested.

B. Rejections under 35 U.S.C. § 103:

Claims 5, 9, and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Baker in view of U.S. Patent No. 6,672,596 to Devers ("Devers").

Devers describes a seal adaptor assembly 40 that includes an annular body 41 having a specially configured inner surface 42 that conforms to the non-uniform outer surface 36 of a universal joint housing 12. Cup-like inserts 44 made of a rigid material fit into pockets 43

formed by wall segments 42a-f. A boot seal 38 fits around the outer circumference of the seal adapter assembly 40 and is clamped by clamp ring 48. See, column 3, lines 36-65. The Devers seal adapter assembly 40 is described as being “made of a somewhat pliable material for fitting on the non-uniform outer surface 36” of the housing 12. Column 4, line 12. Specifically, seal adaptor assembly has “enough pliability to be pulled over the end 12a of the housing 12 until the specifically configured inner surface 42 thereof is located to conform to the non-uniform outer surface 36 of the housing 12. Column 4, lines 12-15.

Baker, as described above, describes a segmented band instead of the Devers seal adapter assembly. Baker differs from Devers in that the Baker segmented band fits on the outside of the boot, wherein the Devers seal adapter assembly fits on the inside of the boot.

Applicants have amended independent claim 1 to add additional features. Applicants have cancelled claim 5. Each of claims 9 and 10 depend from claim 1.

Claim 1 now recites an axle boot for joint sealing that, among other features, includes:

a plurality of compensating pieces connected to one another by a plurality of ring sections to form a single piece component surrounding an outer circumference of the connecting collar, the single piece component having a cylindrical outer circumferential surface, wherein at least one of the ring sections is elastically deformable sufficient to enable the single piece component to expand to a circumference larger than the outer circumference of the connecting collar.

Support for the added features is found in the Applicants’ original specification, for example, in claims 4 and 5, which have been cancelled. The circumferential elasticity of the single piece component is also described at paragraph [0029], as being sufficient to compensate for positive and negative circumferential changes that occur during fitting of the single piece component. To fit the single piece component around the connecting collar, the circumference must be expanded to be larger than the outside circumference of the connecting collar, so that it can be positioned around the connecting collar and moved axially into position, before contracting again to fit snugly against the outside surface of the connecting collar.

Applicants respectfully submit that the combination of Baker and Devers does not teach or suggest the feature of at least one ring section that “is elastically deformable sufficient to enable the single piece component to expand to a circumference larger than the outer circumference of the connecting collar.” On the contrary, the Devers seal adapter assembly 40 is

disposed inside of the connecting collar of the Devers boot 38 fits and therefore has a circumference smaller than the outer circumference of the collar (see Fig. 2). Nor is the minimal pliability of the adapter assembly 40 disclosed in Devers sufficient to enable of the magnitude of expansion required to reach the outer circumference of the Devers connecting collar.

Furthermore, Baker, as admitted by the Examiner, does not disclose an elastically deformable ring section and also does not suggest one, but instead teaches a plurality of segmented band sections 30 that are joined during assembly of the whole boot assembly by tongue and groove portions 34, 36 and spot welded to the sleeve 15. Therefore, neither Devers nor Baker, alone or in combination, suggest the feature of a ring section elastically deformable sufficient to enable the single piece component to expand to a circumference larger than the outer circumference of the connecting collar.

Furthermore, even beyond the relative circumferential size difference of the sleeve and the component, the Devers teaching of minimal pliability of the assembly 40 (merely pliant enough to be slipped around the exterior of rigid housing 12) is insufficient when combined with Baker to suggest the claimed invention. That type of pliability of a ring would be insufficient to enable insertion of a flexible member (i.e. flexible Baker sleeve 15) between such a modified ring and the rigid Baker housing 16.

Moreover, because Baker specifically teaches away from the Devers configuration using a compensating (or filler ring) between the housing and the boot, (see Baker column 2, lines 22-35), a person of ordinary skill in the art would not have been motivated to combine features from Devers in the first place.

For at least the above reasons, therefore, withdrawal of the rejection to claims 9 and 10 under 35 U.S.C. § 103 is respectfully requested.

C. Additional Amendments:

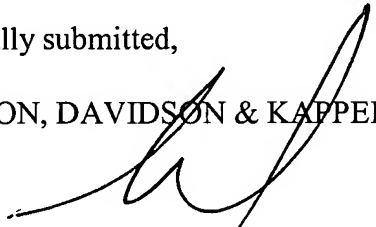
Applicants have further modified claim 1 to correct minor typographical errors, and have amended claim 6 to correct its dependency in view of the cancellation of claim 5. Applicants amended claim 7 to use the word “adjacent” instead of “connected” to more clearly (and broadly) recite the invention. Also, Applicants have added new claim 12. Support for new claim 12 is found, for example, at paragraph [0031].

CONCLUSION

For at least the reasons stated above, Applicant requests withdrawal of the rejections. It is respectfully submitted that the application is now in condition for allowance. Should the Examiner feel that an interview would advance prosecution of the present application, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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